

AMENDED CLAIM SET

1. (Currently Amended) A 1-chip microcomputer, comprising:
access permission address range setting ~~means, for~~ means for
setting, prior to each execution of an application program, an
address range in which an within which access by the application
program to be executed is permitted, said access permission address
range setting means being operable to set said address range only
when a software in a predetermined address space is being executed;
~~that is able to be set during accessing with respect to a specified~~
~~address space;~~

judging means for judging whether or not an access is carried
out within the address range thus set during execution of a
~~software~~ the application program;

access permission setting means, ~~for~~ for setting whether or not an
access with respect to an address ~~other than~~ outside of the address
range should be permitted, said access permission setting means
being operable to set said access only when the software in the
predetermined address space is being executed; and ~~that is able to~~
~~be set during accessing with respect to the specified address~~
~~space, and~~

control means for controlling an access of the application
program ~~with respect to~~ a memory based on a result of the judging
means and ~~content setted~~ permission set by the access permission
setting means.

2. (Currently Amended) A 1-chip microcomputer, comprising:
a monitor flag for ~~setting~~ toggling a flag indicating that a
~~specified~~ predetermined address space is being accessed;

an access permission address range setting register, ~~for~~
~~setting~~ operable to set, when said flag is toggled, an address
range ~~in which~~ within which an access is permitted, ~~that is able to~~
~~be set while the flag is set~~;

judging means for judging whether or not an access is carried
out within the address range thus set during execution of a
software;

an access permission setting register, ~~for setting whether or~~
~~not an~~ operable to set, when said flag is toggled, a permission for
accessing outside ~~access with respect to an address other than the~~
address range; ~~and should be permitted, that is able to be set~~
~~while the flag is set, and~~

control means for controlling an access with respect to a
memory based on a result of the judging means and ~~content~~
permission set by the access permission setting register.

3. (Currently Amended) The 1-chip microcomputer as set forth
in claim 2, wherein:

a system software is stored in the predetermined ~~specified~~
address space, and

the system software sets (a) the access permission address range setting register so as to have an address range in which a next program to be executed is stored prior to execution of the next program and (b) the access permission register so as not to permit the access with respect to the address other than the address range.

4. (Currently Amended) The 1-chip microcomputer as set forth in claim 2, further comprising:

_____ interruption request signal generating means for generating an interruption request signal to a CPU when the access permission setting register is set so as not to permit ~~to~~ access to the address other than the address range and the judging means judges that the address other than the address range has been accessed, in which a predetermined interruption proceeding program is executed.

5. (Currently Amended) The 1-chip microcomputer as set forth in claim 3, further comprising:

_____ interruption request signal generating means for generating an interruption request signal to a CPU when the access permission setting register is set so as not to permit ~~to~~ access to the address other than the address range and the judging means judges that the address other than the address range has been accessed, in which a predetermined interruption proceeding program is executed.

6. (Currently Amended) The 1-chip microcomputer as set forth in claim 4, wherein the interruption proceeding program hands over control to one of a system program and ~~or~~ an operating system.

7. (Currently Amended) The 1-chip microcomputer as set forth in claim 5, wherein the interruption proceeding program hands over control to one of a system program and ~~or~~ an operating system.

8. (Currently Amended) The 1-chip microcomputer as set forth in claim 3, further comprising:

_____re-execution forbidding information memory means for storing information indicating that an access is carried out beyond an access limit,

wherein the control means controls the memory based on the information, such ~~so~~ that the access is not carried out again beyond the access limit.

9. (original) The 1-chip microcomputer as set forth in claim 1, wherein the memory is a nonvolatile memory that is rewritable.

10. (Original) The 1-chip microcomputer as set forth in claim 2, wherein the memory is a nonvolatile memory that is rewritable.

11. (Original) The 1-chip microcomputer as set forth in claim 3, wherein the memory is a nonvolatile memory that is rewritable.

12. (Original) The 1-chip microcomputer as set forth in claim 4, wherein the memory is a nonvolatile memory that is rewritable.

13. (Original) The 1-chip microcomputer as set forth in claim 5, wherein the memory is a nonvolatile memory that is rewritable.

14. (Original) The 1-chip microcomputer as set forth in claim 6, wherein the memory is a nonvolatile memory that is rewritable.

15. (Original) The 1-chip microcomputer as set forth in claim 7, wherein the memory is a nonvolatile memory that is rewritable.

16. (Original) The 1-chip microcomputer as set forth in claim 8, wherein the memory is a nonvolatile memory that is rewritable.

17. (Currently Amended) An IC card that uses a 1-chip microcomputer, said 1-chip microcomputer comprising:

~~_____ (1) access permission address range setting means, for setting, prior to each execution of an application program, an address range in within which an access by the application program to be executed is permitted, said access permission address range setting means being operable to set said address range only when a software in a predetermined address space is being executed that is able to be set during accessing with respect to a specified address space;~~

~~_____ (2) judging means for judging whether or not an access is carried out within the address range thus set during execution of the application program a software;~~

~~_____ (3) access permission setting means, for setting whether or not an access with respect to an address other than outside of the address range should be permitted, said access permission setting means being operable to set said access only when the software in the predetermined address space is being executed; that is able to be set during accessing with respect to the specified address space, and~~

~~_____ (4) control means for controlling an access of the application program with respect to a memory based on a result of the judging means and content setted permission set by the access permission setting means.~~

18. (Currently Amended) An IC card that uses a 1-chip microcomputer, said 1-chip microcomputer comprising:

~~_____ (1) a monitor flag for toggling setting a flag indicating that a specified predetermined address space is being accessed;~~

~~_____ (2) an access permission address range setting register, for setting operable to set, when said flag is toggled, an address range in within which an access is permitted, that is able to be set while the flag is set;~~

~~_____ (3) judging means for judging whether or not an access is carried out within the address range thus set during execution of a software;~~

~~_____ (4) an access permission setting register, for setting whether or not an operable to set, when said flag is toggled, a permission for accessing access with respect to an address other than outside the address range; should be permitted, that is able to be set while the flag is set, and~~

~~_____ (5) control means for controlling an access with respect to a memory based on a result of the judging means and content permission set by the access permission setting register.~~

19. (Currently Amended) The IC card as set forth in claim 18, wherein:

a system software is stored in the predetermined ~~specified~~ address space, and

the system software sets (a) the access permission address range setting register so as to have an address range in which a next program to be executed is stored prior to execution of the next program and (b) the access permission register so as not to permit the access with respect to the address other than the address range.

20. (Currently Amended) The IC card as set forth in claim 19, further comprising:

 interruption request signal generating means for generating an interruption request signal to a CPU when the access permission setting register is set so as not to permit ~~to~~ access to the address other than the address range and the judging means judges that the address other than the address range has been accessed, in which a predetermined interruption proceeding program is executed.

21. (Currently Amended) The IC card as set forth in claim 20, wherein the interruption proceeding program hands over control to one of a system program and ~~or~~ an operating system.

22. (Currently Amended) The IC card as set forth in claim 19, further comprising:

_____re-execution forbidding information memory means for storing information indicating that an access is carried out beyond an access limit,

wherein the control means controls the memory based on the information such ~~so~~ that the access is not carried out again beyond the access limit.